STIC Search Report
Biotech-Chem Library

STIC Database Tracking Number: 153998

TO: Everett White **Location: rem/5d24/5c18** **Art Unit: 1623** **Thursday, May 26, 2005** **Case Serial Number: 10/681560**	**From: Mary Jane Ruhl** **Location: Biotech-Chem Library** **Remsen 1-A-62** **Phone: 571-272-2524** **maryjane.ruhl@uspto.gov**

Search Notes

Examiner White,

Here are the results for your recent search request.

Please feel free to contact me if you have any questions about these results.

Thank you for using STIC services. We appreciate the opportunity to serve you.

Sincerely,

Mary Jane Ruhl
Technical Information Specialist
STIC
Remsen 1-A-62
Ext. 22524

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact ***the searcher or contact***:

Mary Hale, Information Branch Supervisor
Remsen Bldg. 01 D86
571-272-2507

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example: 1610*
- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
  (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC-Biotech-Chem Library Remsen Bldg.

STIC-Biotech/ChemLib 153998 MG

From: Unknown@Unknown.com
Sent: Thursday, May 19, 2005 7:38 PM
To: STIC-Biotech/ChemLib
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= _____

LogNumber= _____

Searcher= _____

SearcherPhone= _____

SearcherBranch= _____

MyDate=Thu May 19 19:37:04 EDT 2005

submitto=Biotech01@uspto.gov

Name=Everett White

Empno=67057

Phone=571-272-0660

Artunit=1623 5C18

Office=REM 5D24

Serialnum=10/681,560

PatClass=536/20 & 536/124

Earliest=October 8, 2003

Format3=email

Searchtopic=Please seach a water-soluble chitosan having low endotoxin content.

Claim 24 of the case reads

A water-soluble chitosan having low endotoxin content form by the method of Claim 1, wherein the water-soluble chitosan having low endotoxin content comprises less than about 100 equivalent units (e.u.) of endotoxin per gram of dry water-soluble chitosan.

Keywords:
water-soluble chitosan
low endotoxin

Comments=Daily from 11:00 to 6:00

send=SEND

****
STAFF USE ONLY

Searcher:_____
Searcher Phone: 2-
Date Searcher Picked up:____
Date Completed: 5/26
Searcher Prep/Rev. Time:___
Online Time:_____

****
Type of Search

NA#:_____ AA#:_____
Interference:____ SPDI:___
S/L:_____ Oligomer:_____
Encode/Transl:_____
Structure#:_____ Text:___
Inventor:____ Litigation:___

****
Vendors and cost where applicable
STN:_____
DIALOG:_____
QUESTEL/ORBIT:_____
LEXIS/NEXIS:_____
SEQUENCE SYSTEM:_____
WWW/Internet:_____
Other(Specify):_____

STIC-Biotech/ChemLib 153998 MG

From: Unknown@Unknown.com
Sent: Thursday, May 19, 2005 7:38 PM
To: STIC-Biotech/ChemLib
Subject: Generic form response

ResponseHeader=Commercial Database Search Request

AccessDB#= _____

LogNumber= _____

Searcher= _____

SearcherPhone= _____

SearcherBranch= _____

MyDate=Thu May 19 19:37:04 EDT 2005

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Name=Everett White

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PatClass=536/20 & 536/124

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Keywords:
water-soluble chitosan
low endotoxin

Comments=Daily from 11:00 to 6:00

send=SEND

****
STAFF USE ONLY

Searcher:_____
Searcher Phone: 2-
Date Searcher Picked up:____
Date Completed:_____
Searcher Prep/Rev. Time:___
Online Time:_____

****
Type of Search

NA#:_____ AA#:_____
Interference:____ SPDI:___
S/L:_____ Oligomer:_____
Encode/Transl:_____
Structure#:_____ Text:___
Inventor:____ Litigation:___

****
Vendors and cost where applicable

STN:_____
DIALOG:_____
QUESTEL/ORBIT:_____
LEXIS/NEXIS:_____
SEQUENCE SYSTEM:_____
WWW/Internet:_____
Other(Specify):_____

```
=> d his ful

     FILE 'HCAPLUS' ENTERED AT 17:34:44 ON 26 MAY 2005
                  E HUNG WILLIAM M/AU
L1             51 SEA ABB=ON  ("HUNG WILLIAM M"/AU OR "HUNG WILLIAM M W"/AU OR
                  "HUNG WILLIAM MO WEI"/AU)
                  E BERGBAUER KATRINA L/AU
L2              9 SEA ABB=ON  "BERGBAUER KATRINA L"/AU
                  E SU KAI C/AU
L3            117 SEA ABB=ON  ("SU KAI"/AU OR "SU KAI C"/AU OR "SU KAI CHIANG"/AU
                  )
                  E WANG GUIGUI/AU
L4             21 SEA ABB=ON  ("WANG GUIGEN"/AU OR "WANG GUIGING"/AU OR "WANG
                  GUIGUI"/AU OR "WANG GUIHAI"/AU)
                  E WAGES SHERRY/AU
L5              6 SEA ABB=ON  ("WAGES SHERRY"/AU OR "WAGES SHERRY A"/AU OR
                  "WAGES SHERRY ANN"/AU)
L6              1 SEA ABB=ON  L1 AND L2 AND L3 AND L4 AND L5
L7                ANALYZE L6 1-1 CT :       6 TERMS

     FILE 'REGISTRY' ENTERED AT 17:39:27 ON 26 MAY 2005
L8              1 SEA ABB=ON  CHITOSAN/CN

     FILE 'REGISTRY' ENTERED AT 17:40:34 ON 26 MAY 2005
L9              1 SEA ABB=ON  WATER/CN

     FILE 'HCAPLUS' ENTERED AT 17:40:45 ON 26 MAY 2005
L10           775 SEA ABB=ON  (L8 OR ?CHITOSAN?)(6A)((L9 OR ?WATER? OR H2O)(W)?SO
                  LUB?)
L11             2 SEA ABB=ON  L10 AND ?ENDOTOXIN?   2 cits from CAPlus

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO' ENTERED AT
     17:42:26 ON 26 MAY 2005
L12             4 SEA ABB=ON  L11
L13             4 DUP REMOV L12 (0 DUPLICATES REMOVED)

     FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, JICST-EPLUS, JAPIO, AGRICOLA, CABA,
     CROPB, CROPR, CROPU, FSTA, FROSTI, LIFESCI' ENTERED AT 17:44:42 ON 26 MAY
     2005
L14             4 SEA ABB=ON  L11
L15             4 DUP REMOV L14 (0 DUPLICATES REMOVED)
L16             4 SEA ABB=ON  L13 OR L14   4 cits from above dbs

     FILE HCAPLUS

     FILE COVERS 1907 - 26 May 2005  VOL 142 ISS 22
     FILE LAST UPDATED: 25 May 2005  (20050525/ED)

     New CAS Information Use Policies, enter HELP USAGETERMS for details.

      This file contains CAS Registry Numbers for easy and accurate
      substance identification.

     FILE REGISTRY
     Property values tagged with IC are from the ZIC/VINITI data file
     provided by InfoChem.

     STRUCTURE FILE UPDATES:   25 MAY 2005  HIGHEST RN 851163-60-5
     DICTIONARY FILE UPDATES:  25 MAY 2005  HIGHEST RN 851163-60-5
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New CAS Information Use Policies, enter HELP USAGETERMS for details.

FILE MEDLINE
FILE LAST UPDATED: 26 MAY 2005 (20050526/UP). FILE COVERS 1950 TO DATE.

On December 19, 2004, the 2005 MeSH terms were loaded.

The MEDLINE reload for 2005 is now available. For details enter HELP RLOAD at an arrow promt (=>). See also:

http://www.nlm.nih.gov/mesh/
http://www.nlm.nih.gov/pubs/techbull/nd04/nd04_mesh.html

OLDMEDLINE now back to 1950.

MEDLINE thesauri in the /CN, /CT, and /MN fields incorporate the MeSH 2005 vocabulary.

FILE BIOSIS
FILE COVERS 1969 TO DATE.
CAS REGISTRY NUMBERS AND CHEMICAL NAMES (CNs) PRESENT
FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 25 May 2005 (20050525/ED)

FILE RELOADED: 19 October 2003.

FILE EMBASE
FILE COVERS 1974 TO 19 May 2005 (20050519/ED)

FILE WPIDS
FILE LAST UPDATED: 24 MAY 2005 <20050524/UP>
MOST RECENT DERWENT UPDATE: 200533 <200533/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> FOR INFORMATION ON ALL DERWENT WORLD PATENTS INDEX USER

FILE JICST-EPLUS
FILE COVERS 1985 TO 23 MAY 2005 (20050523/ED)

THE JICST-EPLUS FILE HAS BEEN RELOADED TO REFLECT THE 1999 CONTROLLED TERM (/CT) THESAURUS RELOAD.

FILE JAPIO
FILE LAST UPDATED: 18 MAY 2005 <20050518/UP>
FILE COVERS APR 1973 TO JANUARY 27, 2005

<<< GRAPHIC IMAGES AVAILABLE >>>

FILE AGRICOLA
FILE COVERS 1970 TO 6 Apr 2005 (20050406/ED)

FILE CABA
FILE COVERS 1973 TO 6 May 2005 (20050506/ED)
The CABA file was reloaded 7 December 2003. Enter HELP RLOAD for details.

FILE CROPB
FILE LAST LOADED: 11 NOV 94 <941111/UP>

>>> EFFECTIVE JAN 1, 2004, THE 70% DISCOUNT FOR
DERWENT CROP PROTECTION SUBSCRIBERS WILL BE NO
LONGER VALID <<<

FILE CROPR
FILE LAST RELOADED: 17 FEB 2004 <20040217/UP>

>>> EFFECTIVE JAN 1, 2004, THE 70% DISCOUNT FOR
DERWENT CROP PROTECTION SUBSCRIBERS WILL BE NO
LONGER VALID <<<

FILE CROPU
FILE LAST UPDATED: 5 JAN 2004 <20040105/UP>
FILE COVERS 1985 TO 2003

>>> CROPU WILL NO LONGER BE UPDATED AS OF 2004 <<<

FILE FSTA
FILE LAST UPDATED: 23 MAY 2005 <20050523/UP>
FILE COVERS 1969 TO DATE.

FILE FROSTI
FILE LAST UPDATED: 25 MAY 2005 <20050525/UP>
FILE COVERS 1972 TO DATE.

FILE LIFESCI
FILE COVERS 1978 TO 16 May 2005 (20050516/ED)

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=> d que stat l11
L8            1 SEA FILE=REGISTRY ABB=ON  CHITOSAN/CN
L9            1 SEA FILE=REGISTRY ABB=ON  WATER/CN
L10         775 SEA FILE=HCAPLUS ABB=ON  (L8 OR ?CHITOSAN?)(6A)((L9 OR ?WATER?
              OR H2O)(W)?SOLUB?)
L11           2 SEA FILE=HCAPLUS ABB=ON  L10 AND ?ENDOTOXIN?

=> d ibib abs l11 1-2

L11  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:         2005:325743  HCAPLUS
DOCUMENT NUMBER:          142:375458
TITLE:                    Water-soluble chitosan
                          having low endotoxin concentration and
                          methods for making and using the same
INVENTOR(S):              Hung, William M.; Bergbauer, Katrina L.; Su, Kai C.;
                          Wang, Guigui; Wages, Sherry
PATENT ASSIGNEE(S):       USA
SOURCE:                   U.S. Pat. Appl. Publ., 11 pp.
                          CODEN: USXXCO
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.          KIND   DATE        APPLICATION NO.          DATE
     ---------------     ----   --------    --------------------     --------
     US 2005080245        A1    20050414    US 2003-681560           20031008
     WO 2005034865        A2    20050421    WO 2004-US32898          20041005
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
             TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM,
             AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
             EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE,
             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
PRIORITY APPLN. INFO.:                       US 2003-681560      A  20031008
AB   A method of making water-soluble chitosan
     comprises steps of (A) contacting water-insol. chitosan with a basic
     solution, (B) rinsing the water-insol. chitosan to remove any residual basic
     solution, (C) partially acetylating the water-insol. chitosan in a reaction
     solution containing a phase transfer catalyst to form partially acetylated
     water-soluble chitosan, (D) dissolving the
     partially acetylated water-soluble chitosan in
     an aqueous solution containing a surfactant, (E) adjusting a pH of the aqueous
solution to a
     pH of ≥7.0, (F) adding a water-miscible solvent into the aqueous solution,
     (G) further adjusting the pH of the aqueous solution to a pH of ≥8.0 to
     cause precipitation of water-soluble chitosan having
     low endotoxin content, (H) separating the water-sol
     . chitosan having low endotoxin content from the aqueous
     solution, and (I) washing the water-soluble chitosan
     having low endotoxin content with the water-miscible solvent.  A
     pharmaceutically acceptable solution comprises this water-
     soluble chitosan and a buffer material.
```

L11 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1995:347903 HCAPLUS
DOCUMENT NUMBER: 122:96084
TITLE: **Water soluble endotoxin-chitosan** complexes and their action on platelet aggregation
AUTHOR(S): Yermak, I. M.; Gorbach, V. I.; Polyakova, A. M.; Astrina, O. S.; Luk'yanov, P. A.; Solov'eva, T. F.; Maleev, V. V.; Ovodov, Yu. S.
CORPORATE SOURCE: Pac. Inst. Bioorg. Chem., Far East Branch Russian Acad. Sci., Vladivostok, 690022, Russia
SOURCE: Biologicheskie Membrany (1994), 11(5), 496-500
CODEN: BIMEE9; ISSN: 0233-4755
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB Formation of stable complexes between lipopolysaccharides as **endotoxins** of Escherichia coli and Yersinia pseudotuberculosis and chitosan in aqueous solution was demonstrated using sedimentation technique. The ratio of LPS and chitosan in the complexes was shown to vary within the range of 1:1 to 1:5 (weight/weight) in the relation to the concentration of the components used. The effect of LPS, chitosan, and the complex LPS-chitosan on the aggregation of platelets was studied in expts. in vitro. The platelet aggregation with LPS was found to increase by an average of 11% in comparison with the control tests while the LPS-chitosan complex was shown to decrease the aggregation ability of platelets by an average of 8% at least. Thus, the data demonstrating chitosan and its complexes with **endotoxins** may be successfully applied for the protection of blood cells from heavy damage by **endotoxins** of gram-neg. bacteria.

```
=> d que stat l16
L8            1 SEA FILE=REGISTRY ABB=ON  CHITOSAN/CN
L9            1 SEA FILE=REGISTRY ABB=ON  WATER/CN
L10         775 SEA FILE=HCAPLUS ABB=ON  (L8 OR ?CHITOSAN?)(6A)((L9 OR ?WATER?
                OR H2O)(W)?SOLUB?)
L11           2 SEA FILE=HCAPLUS ABB=ON  L10 AND ?ENDOTOXIN?
L12           4 SEA L11
L13           4 DUP REMOV L12 (0 DUPLICATES REMOVED)
L14           4 SEA L11
L16           4 SEA L13 OR L14

=> d ibib abs l16 1-4

L16  ANSWER 1 OF 4  BIOSIS  COPYRIGHT (c) 2005 The Thomson Corporation  on STN
ACCESSION NUMBER:   1995:225541  BIOSIS
DOCUMENT NUMBER:    PREV199598239841
TITLE:              Water soluble endotoxin-
                    chitosan complexes and their action on platelet
                    aggregation.
AUTHOR(S):          Ermak, I. M. [Reprint author]; Gorbach, V. I. [Reprint
                    author]; Polyakova, A. M.; Astrina, O. S.; Luk'yanov, P. A.
                    [Reprint author]; Solov'eva, T. F. [Reprint author];
                    Maleev, V. V.; Ovodov, Yu. S.
CORPORATE SOURCE:   Pac. Inst. Bioorg. Chem., Far East Div., Russ. Acad. Sci.,
                    Vladivostok 690022, Russia
SOURCE:             Biologicheskie Membrany (Moscow), (1994) Vol. 11, No. 5,
                    pp. 496-500.
                    CODEN: BIMEE9. ISSN: 0233-4755.
DOCUMENT TYPE:      Article
LANGUAGE:           Russian
ENTRY DATE:         Entered STN: 31 May 1995
                    Last Updated on STN: 31 May 1995
AB   Formation of stable complexes between lipopolysaccharides as
     endotoxins of Escherichia coli and Yersinia pseudotuberculosis and
     chitozan in aqueous solution was demonstrated using sedimentation
     technique.  The ratio of LPS and chitozan in the complexes was shown to
     vary within the range of 1:1 to 1:5 (w/w) in the relation to the
     concentration of the components used.  The effect of LPS, chitozan and the
     complex LPS-chitozan on the aggregation of platelets was studied in
     experiments in vitro.  The platelet aggregation with LPS was found to
     increase by an average of 11% in comparison with the control tests while
     the LPS-chitozan complex was shown to decrease the aggregation ability of
     platelets by an average of 8% at least.  Thus, our data demonstrating
     chitozan and its complexes with endotoxins may be successfully
     applied for the protection of blood cells from heavy damage by
     endotoxins of gram-negative bacteria.

L16  ANSWER 2 OF 4  WPIDS  COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER:     1995-077321 [11]   WPIDS
DOC. NO. NON-CPI:     N1995-061224
DOC. NO. CPI:         C1995-034426
TITLE:                Selective endotoxin absorber - comprises
                      chitosan containing amino gps. fixed on water insol. carrier.
DERWENT CLASS:        A11 A96 B07 J01 P34
PATENT ASSIGNEE(S):   (TOYM) TOYOBO KK
COUNTRY COUNT:        1
PATENT INFORMATION:

     PATENT NO       KIND DATE     WEEK      LA   PG
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JP 07000816	A	19950106 (199511)*	8

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 07000816	A	JP 1992-56939	19920206

PRIORITY APPLN. INFO: JP 1992-56939 19920206
AN 1995-077321 [11] WPIDS
AB JP 07000816 A UPAB: 19950322
A chitosan of mol.weight of 1000-20000, and containing amino gps. in an amount of
0.05-3.00 meq/g. is fixed on a water-insol. carrier.
Pref. aldehyde cellulose (CA-1) is obtd. by adding porous cellulose grain to Na periodate. Cellulose-chitosan cpd. was obtd. by adding CA-1, to chitosan dissolved in buffer solution
USE/ADVANTAGE - The absorber removes **endotoxin** selectively, and may be used for medical applications and for refining of solution etc.
Dwg.0/0

L16 ANSWER 3 OF 4 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1993-003784 [01] WPIDS
DOC. NO. CPI: C1993-001737
TITLE: Porous chitosan moulded body - prepared by mixing chitosan aqueous solution with water-insol. volatile organic cpd., moulding and drying.
DERWENT CLASS: A11 A96 J01
PATENT ASSIGNEE(S): (KURK) KURITA WATER IND LTD
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
JP 04330936	A	19921118 (199301)*			3

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
JP 04330936	A	JP 1991-98813	19910430

PRIORITY APPLN. INFO: JP 1991-98813 19910430
AN 1993-003784 [01] WPIDS
AB JP 04330936 A UPAB: 19931118
The body consists of porous chitosan with macropores of 1 - several tens of microns in a three dimensional reticulate structure. A chitosan aqueous solution is mixed with an organic cpd. which is water-insoluble and volatile to form an oil in water type emulsion which is flowed and dried to produce the body.
USE/ADVANTAGE - The body adsorbs macromolecules such as protein, **endotoxin**, and nucleic acid in a high amount, so it is useful industrially.
In an example, chitosan (eta = 21 dl/g, deacetylation degree 87 mol.%) 0.5 g was added to pure water 100 ml. Glacial acetic acid 0.5 g was added to form a 5 w/v % chitosan aqueous solution To the solution 60 ml, 0.5

w/v% nonipole 110 (RTM) containing decalin 40 ml was added and stirred with 4,000 r.p.m./min., and made into an o/w type emulsion. The emulsion 10 ml was poured in a glass dish of dia. 10 cm, and heated and dried at 80 deg.C for 2 hours. A white thin membrane having 1 - several microns macropores was obt
Dwg.0/0

L16 ANSWER 4 OF 4 WPIDS COPYRIGHT 2005 THE THOMSON CORP on STN
ACCESSION NUMBER: 1985-050569 [09] WPIDS
DOC. NO. CPI: C1985-022048
TITLE: Plasminogen-activating proteinase enzymes e.g. urokinase purification - by selective adsorption of immobilised chondroitin sulphate, chitin or chitosan.
DERWENT CLASS: B04 D16
INVENTOR(S): STOCKER, K F
PATENT ASSIGNEE(S): (PENT-N) PENTAPHARM AG
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
CH 647548	A	19850131	(198509)*		5

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
CH 647548	A	CH 1980-907	19800205

PRIORITY APPLN. INFO: CH 1980-907 19800205
AN 1985-050569 [09] WPIDS
AB CH 647548 A UPAB: 19930925
In the production of pure plasminogen-activating proteinases from plasminogen-activating materials additionally containing foreign substances, (A) the plasminogen-activating material is taken up in a first aqueous medium and separated from any undissolved solids; (B) the solution is contacted with a separating agent consisting of insolubilised chondroitin sulphate bound to a **water-insoluble** carrier or of chitin or **chitosan**, in order to bind the plasminogen-activating proteinase to the separating agent; and (C) the plasminogen-activating proteinase is separated from the separating agent by means of a second aqueous medium.

USE/ADVANTAGE - Plasminogen-activating proteinases such as urokinase convert plasminogen into plasmin and are capable of effecting the dissolution of blood clots. Urokinase is used as a medicament for the treatment of thromboembolic disorders. The specified proteinases have a strong affinity for plasminogen-activating proteinases such as thrombin-like snake-venom proteinase, fibrinolytic impurities in thrombin prepns. and urokinase, but no affinity for bacterial **endotoxins** (pyrogens), kallikrein, trypsin and other proteins contained in crude urokinase or in urine.
0/0

=> d ibib abs ind 16 1-1

L6 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2005:325743 HCAPLUS
DOCUMENT NUMBER: 142:375458
TITLE: Water-soluble chitosan having low endotoxin concentration and methods for making and using the same
INVENTOR(S): **Hung, William M.; Bergbauer, Katrina L.; Su, Kai C.; Wang, Guigui; Wages, Sherry**
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2005080245	A1	20050414	US 2003-681560	20031008
WO 2005034865	A2	20050421	WO 2004-US32898	20041005

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-681560 A 20031008

AB A method of making water-soluble chitosan comprises steps of (A) contacting water-insol. chitosan with a basic solution, (B) rinsing the water-insol. chitosan to remove any residual basic solution, (C) partially acetylating the water-insol. chitosan in a reaction solution containing a phase transfer catalyst to form partially acetylated water-soluble chitosan, (D) dissolving the partially acetylated water-soluble chitosan in an aqueous solution containing a surfactant, (E) adjusting a pH of the aqueous solution to a pH of ≥7.0, (F) adding a water-miscible solvent into the aqueous solution, (G) further adjusting the pH of the aqueous solution to a pH of ≥8.0 to cause precipitation of water-soluble chitosan having low endotoxin content, (H) separating the water-soluble chitosan having low endotoxin content from the aqueous solution, and (I) washing the water-soluble chitosan having low endotoxin content with the water-miscible solvent. A pharmaceutically acceptable solution comprises this water-soluble chitosan and a buffer material.

IC ICM C08B037-08
INCL 536020000
CC 44-5 (Industrial Carbohydrates)
ST water soluble chitosan low endotoxin concn
IT Toxins
RL: MSC (Miscellaneous)

(endotoxins; water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT Phase transfer catalysts
Surfactants
(water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT Crown ethers
Phosphonium compounds
Quaternary ammonium compounds, uses
RL: CAT (Catalyst use); USES (Uses)
(water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT 9005-64-5, Polyoxyethylene sorbitan monolaurate
RL: NUU (Other use, unclassified); USES (Uses)
(surfactant; water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT 1643-19-2, Tetrabutylammonium bromide 16969-45-2, Pyridinium
RL: CAT (Catalyst use); USES (Uses)
(water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT 9012-76-4P, Chitosan
RL: IMF (Industrial manufacture); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(water-soluble chitosan having low endotoxin concentration and methods for making and using same)
IT 108-24-7, Acetic anhydride 1310-73-2, Sodium hydroxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(water-soluble chitosan having low endotoxin concentration and methods for making and using same)